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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,252	04/18/2000	Peggy G. Lemaux	5830-3	3070

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EXAMINER

HELMER, GEORGIA L

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 03/11/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/552,252

Applicant(s)

LEMAUX ET AL.

Examiner

Georgia Helmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of the Claims***

1. Claims 1-41 are pending.
2. The status of all cited US patent applications must be included and updated as applicable.

### ***Drawings***

3. This application has been filed with drawings which have been approved by the Office draftsman.

### ***Claim Rejections - 35 USC § 112-second paragraph***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear whether "a cell of green regenerative tissue" means the cell is obtained from green regenerative tissue or the cell comprises green regenerative tissue. It is suggested that the above phrase be amended to "a plant cell". "Dim light" is unclear because the term lacks a comparative basis. "Intermediate-incubation medium" implies a first and a final incubation medium, which are not disclosed. It is suggested that "intermediate" be deleted.

Claim 4 appears to exclude the cytokinin of claim 1. It is suggested that "the intermediate-incubation medium comprises" be deleted.

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Claim 5 appears to exclude the auxin of claim 1. It is suggested that "the intermediate-incubation medium comprises" be deleted.

In claim 8, "further comprises" should be deleted.

Claim 9 does not further limit claim 1.

Claim 25 implies that the starting plant tissue is not "green regenerative tissue".

Claim 32 should be amended to "A method of producing the callus of claim 29".

Claim 32, which recites (line 28) "excising the root and shoot from the seed" is unclear, because at this point in the steps of the claimed method, Applicant has a germinating seed, not a seed. It is unclear whether the "excised root and shoot" are used in the further culture steps or are discarded. Further, claim 32 is an incomplete method because it does not result in callus production.

Claim 35 implies that the starting plant tissue is not "green regenerative tissue".

It is unclear how the steps set forth in claims 40 and 41 apply to claim 35, which is directed to a method for regeneration a plant from plant tissue.

Clarification and/or correction are required.

***Claim Rejections - 35 USC § 102***

5. The statutory basis of 35 USC 102 (b) is given below.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-16, 25-27, 29-31, 33-37 and 39-41 are rejected under 35 USC 102 (b) as being anticipated by Wan, Y and Lemaux, PG (Plant Physiol 104: 37-48 (1994)).

Since the meaning of "dim light" is not adequately defined in the specification (see 112-second paragraph above), the Office interprets dim light as being any light conditions.

Also, the Office interprets callus as being "green regenerative tissue".

Wan teaches a method for producing a transformed Golden Promise barley plant (title and abstract, p37; p38 1<sup>st</sup> column 2<sup>nd</sup> paragraph) by introducing a nucleic acid into a cell of callus derived from an immature zygotic embryo (p37, 2<sup>nd</sup> column, 2<sup>nd</sup> paragraph) to produce a transformed plant cell, culturing the transformed plant cell under conditions comprising dim light (p38, column one, 2<sup>nd</sup> paragraph) on an intermediate-incubation medium comprising indoleacetic acid (p38, 2<sup>nd</sup> column, 2<sup>nd</sup> line), an auxin, at the concentration of 1 mg/L (p38, 2<sup>nd</sup> column, 3<sup>rd</sup> line), and kinetin (p38, 2<sup>nd</sup> column, 3<sup>rd</sup> line), a cytokinin, at the concentration of 0.2 mg/L (p38, 2<sup>nd</sup> column, 3<sup>rd</sup> line), thereby promoting proliferation and formation of a transformed structure on a regeneration medium to produce the transformed plant. Wan further teaches the intermediate incubation medium comprising copper at a concentration of 0.1 microMolar (p38, 1<sup>st</sup> column, 3<sup>rd</sup> paragraph) and maltose as the carbon source (p38, 1<sup>st</sup> column, 2<sup>nd</sup> paragraph.). Applicant states that the copper concentration of MS medium is 0.1 micromolar (specification page 10). Wan further teaches selecting for the transformed plant cell by incubating the plant cell on a growth medium comprising a selective agent (p 39, 1<sup>st</sup> column, 4<sup>th</sup> paragraph), the step of introducing the nucleic acid comprising bombardment of green regenerative tissue with micro projectiles coated with nucleic

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acid (p38, 2<sup>nd</sup> column, 2<sup>nd</sup> paragraph), and the bombardment performed at below 1300 psi (p38, 2<sup>nd</sup> column, 2<sup>nd</sup> paragraph).

Claims 1-11, 14, 15, 17, 25-41 are rejected under 35 USC 102 (b) as being anticipated by Vasil, IK, USP 5,405,765 issued 11 April, 1995. Vasil teaches a method for producing a transformed Anza wheat plant (column 7, line 23) by bombarding (9<sup>th</sup> column, line 25-35) a nucleic acid into a cell of callus, the callus having been produced from an immature zygotic embryo (7<sup>th</sup> column, lines 20-55) or a germinating seed (column 7, lines 32-60), to produce a transformed plant cell, culturing the transformed plant cell under light conditions (column 8, line 34) on an intermediate-incubation medium comprising indoleacetic acid (7<sup>th</sup> column, 23<sup>rd</sup> line) at the concentration of 1 mg/L, and zeatin (7<sup>th</sup> column, 23<sup>rd</sup> line), at the concentration of 1 mg/L, copper at a concentration of 0.1 microMolar (7<sup>th</sup> column, line 47) and sucrose as the carbon source (7<sup>th</sup> column, line 53), thereby promoting proliferation and formation of a transformed structure on a regeneration medium to produce a transformed Anza wheat plant. Vasil further teaches selecting for the transformed wheat plant cell by incubating the plant cell on a growth medium comprising a selective agent (9<sup>th</sup> column, lines 45-54).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-41 are rejected under 35 USC 103 as being unpatentable over Wan, Y and Lemaux, PG (Plant Physiol 104: 37-48 (1994)) and Vasil USP 5,405,765, issued 11 April 1995. The rejection of claims 1-17 and 25-41 have been discussed above. Wan does not teach Anza wheat, maize H99 or B73, rice Taipei 309, Rapido orchardgrass, tall fescue Ky31, red fescue 43F-93, creeping bentgrass Putter, or Kentucky bluegrass Kenblue. Vasil teaches Anza wheat.

The teachings of Wan and of Vasil are summarized in the above paragraph. Claims 18-24 recite commercially available monocot cultivars. It would have been well within the means of one of ordinary skill in the art at the time the invention was made to use the teachings of Wan and of Vasil to transform and regenerate these commercially valuable cultivars with a reasonable expectation of success.

### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-41 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,235,529. Although the conflicting claims are not identical, they are not patentably distinct from each other because the species claims of patent 6,235,529 renders the genus claims of the instant application obvious. Further more, it is well within the means of one of ordinary skill to transform other monocot species including wheat, maize, rice and grasses by the methods set forth in the patent without any surprising or unexpected results. Applicant should note that none of the plant species of the instant application were subject to a restriction requirement.

***Remarks***

11. No claims are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Georgia L. Helmer whose telephone number is 703-308-7023. The examiner can normally be reached on 8:30 - 5:00.


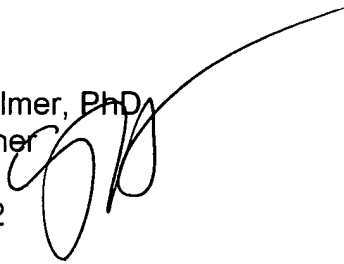
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-308-4242 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Georgia L. Helmer, PhD  
Patent Examiner  
Art Unit 1638  
March 8, 2002



PHUONG T. BUI  
PRIMARY EXAMINER